

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 16 August 1999 (16.08.99)	
International application No. PCT/GB98/03507	Applicant's or agent's file reference JPD/SMH/UNIBR20
International filing date (day/month/year) 24 November 1998 (24.11.98)	Priority date (day/month/year) 24 November 1997 (24.11.97)
Applicant NAPIER, Johnathan, A.	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

21 June 1999 (21.06.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer Lazar Joseph Panakal</p> <p>Telephone No.: (41-22) 338.83.38</p>
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

DEAN, John, Paul
Withers & Rogers
Goldings House
2 Hays Lane
London SE1 2HW
ROYAUME-UNI

Date of mailing (day/month/year) 15 September 1999 (15.09.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference JPD/SMH/UNIBR20	
International application No. PCT/GB98/03507	International filing date (day/month/year) 24 November 1998 (24.11.98)

1. The following indications appeared on record concerning:	
<input type="checkbox"/> the applicant	<input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address DEAN, John, Paul Withers & Rogers 4 Dyer's Buildings Holborn London EC1N 2QP United Kingdom	State of Nationality
	State of Residence
	Telephone No. 44 117 925 3030
	Facsimile No. 44 117 925 3530
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:	
<input type="checkbox"/> the person <input type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence	
Name and Address DEAN, John, Paul Withers & Rogers Goldings House 2 Hays Lane London SE1 2HW United Kingdom	State of Nationality
	State of Residence
	Telephone No. 44 171 663 3500
	Facsimile No. 44 171 663 3550
3. Further observations, if necessary:	
4. A copy of this notification has been sent to:	
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer S. De Michiel Telephone No.: (41-22) 338.83.38
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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

DEAN, John Paul
WITHERS & ROGERS
Goldings House
2, Hays Lane
London SE1 2HW
GRANDE BRETAGNE

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

31.03.00

Applicant's or agent's file reference
JPD/SMH/UNIBR20PCT

IMPORTANT NOTIFICATION

International application No.
PCT/GB98/03507

International filing date (day/month/year)
24/11/1998

Priority date (day/month/year)
24/11/1997

Applicant

UNIVERSITY OF BRISTOL et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Vullo, C

Tel. +49 89 2399-8061



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JPD/SMH/UNIBR20PCT	<div style="display: flex; justify-content: space-between;"> <div>FOR FURTHER ACTION</div> <div>See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)</div> </div>	
International application No. PCT/GB98/03507	International filing date (<i>day/month/year</i>) 24/11/1998	Priority date (<i>day/month/year</i>) 24/11/1997
International Patent Classification (IPC) or national classification and IPC C12N15/53		
Applicant UNIVERSITY OF BRISTOL et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of . sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☒ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21/06/1999	Date of completion of this report <div style="text-align: center; font-size: 1.2em;">31.03.00</div>
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>	Authorized officer Herrmann, K Telephone No. +49 89 2399 2670



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/03507

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-24 as originally filed

Claims, No.:

1-38 as originally filed

Drawings, sheets:

1/9-9/9 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

II. Priority

1. ☐ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☐ copy of the earlier application whose priority has been claimed.
 - ☐ translation of the earlier application whose priority has been claimed.
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

see separate sheet

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 20-22 with respect to industrial applicability, 37.

because:

- ☒ the said international application, or the said claims Nos. 20-22 with respect to industrial applicability relate to the following subject matter which does not require an international preliminary examination (*specify*):

see separate sheet

- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 37 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the said claims Nos. .

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/03507

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	14-22, 24-28, 32-36
	No:	Claims	1-13, 23, 29-31, 38
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-36, 38
Industrial applicability (IA)	Yes:	Claims	1-19, 23-36, 38
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Citations

The documents mentioned in this International Preliminary Examination Report (IPER) are numbered as in the International Search Report dated 12.04.99, i.e. **D1** and **D17** correspond to the first and the last document of the search report, respectively.

Re ITEM II (Priority)

Since the priority document pertaining to the present application is not yet available to the IPEA, this IPER has been drawn up considering the priority date (24.11.97) as valid. **D6** (Sayanova et al.), **D7** (Napier et al.), **D8** (WO9846763) and **D9** (WO9846764) have been published between the priority date and the filing date of the present application. Thus, said documents do not constitute prior art in the meaning of Rule 64(1)(b) PCT. However, if it turns out that the effective date of the claimed subject-matter is not the priority date then **D6-D9** will become relevant to assess whether the present application satisfies the criteria set forth in Art. 33(2) and (3) PCT.

Re ITEM III (Non-establishment of opinion)

- 1 Claims 20-22 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT (*in vivo* treatment or diagnostic methods on the human or animal body). Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Art. 34(4)(a)(i) PCT).

For the assessment of the present claims 20-22 on the question whether they are industrially applicable, no unified criteria exist among the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but will allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB98/03507

- 2 No examination of the claimed invention in respect of claim 37 can be carried out because of lack of clarity of said claim (Art. 6 PCT). A word is missing stating what is to be prepared.

Re ITEM V (Novelty, inventive step, industrial applicability)

1 Summary of the present application

The present application is related to a *C. elegans* cDNA sequence ("CeD6.1") and a *C. elegans* Δ 6 desaturase ("W08D2.4").

2 Novelty (Art. 33(2) PCT)

- 2.1 The subject-matter of claims 14-22, 24-28 and 32-36 has not been made available to the public by any of the available prior art documents and can therefore be regarded as novel.
- 2.2 The subject-matter of claims 1-13, 23, 29-31 and 38 does not meet the requirements of Art. 33(2) and 33(3) PCT.
- 2.3 Claims 1-13 are not novel over **D2**. **D2** discloses the amino acid sequence shown in Fig. 1 of present application (see "W08D2.4" on bottom of p. 2 of **D2**). The desaturase activity and the features defined in claims 2-13 are inherent features of the "W08D2.4" protein and can therefore not be used to restore novelty of the polypeptide (also cf. PCT Guidelines IV-7.5).
- 2.4 With respect to claims 23 it is pointed out that an indication of use in a product claim is not considered suitable to limit the scope of such a claim, i.e. the claim is directed to the product - the polypeptide - *per se* (PCT Guidelines IV-7.6). Therefore, in view of **D2**, the subject-matter of claim 23 does not meet the requirements of Art. 33(2) and (3) PCT.
- 2.5 Claims 29-31 are not novel over **D1**, **D2**, **D4** and **D5**. The complete cDNA sequence encoding the "W08D2.4" gene was readily available before the priority date of present application (**D2**, p. 2, "CDS"). In **D1**, **D4** and **D5** nucleic acid

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molecules are disclosed which code for "fragments" (claim 1c)) or "parts" (claim 13) of the "W08D2.4" gene, therefore also depriving claim 29 of novelty (**D1**: 77,2% identity in 281 bp overlap; **D4**: 98,1% identity in 378 bp overlap; **D5**: 98,0% identity in 300 bp overlap).

Furthermore, the IPEA is of the opinion that the polynucleotide of **D1**, **D2**, **D4**, **D5** and **D16** are capable of hybridizing to any of the polynucleotides defined in claim 29a) or b) and therefore deprive claim 29 of novelty.

- 2.6 The nucleic acid molecules of **D1**, **D2**, **D4**, **D5** and **D16** are all contained in a vector and a host thus also depriving novelty of claims 30, 31 and 38.

3 Inventive step (Art. 33(3) PCT)

The subject-matter of claims 14-22, 24-28, 32-36 does not contribute to an inventive solution of an unexpected technical problem. Said claims contain subject-matter which is considered merely an obvious modification to a person skilled in the art which arises out of the general knowledge and the teaching of **D10** and **D17**. Said claims are only allowable under Art. 33(3) PCT if they refer to a claim which can be regarded as novel and inventive.

4 Industrial applicability (Art. 33(4) PCT)

Claims 1-19, 23-36 and 38 meet the criteria as set forth by Art. 33(4) PCT.

Re ITEM VII (Certain defects in the international application)

- 1 Claim 31 is erroneously referring to claim 27. Claim 31 has been examined as if it were dependent upon claim 29.
- 2 Claims 31 and 38 also encompass humans. The EPC Contracting States, for example, regard such subject-matter to be contrary to morality.
- 3 The present application contains such a high number of independent claims (18 out of 38) that the application as a whole lacks conciseness (Rule 6.1(a) and 6.4 PCT). Furthermore, regarding e.g. claims 27 and 28, attention is drawn to Art. 13 PCT.

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

09/555,093
AV 1638
McElwain

Applicant's or agent's file reference JPD/SMH/UNIBR20	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 98/ 03507	International filing date (day/month/year) 24/11/1998	(Earliest) Priority Date (day/month/year) 24/11/1997
Applicant UNIVERSITY OF BRISTOL et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

DESATURASE GENES AND THEIR USE

5. With regard to the abstract,

the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03507

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6	C12N15/53	C12N15/82	C12N9/02	C12Q1/26	G01N33/53
	A61K38/44	C07K16/40	C12P7/64	C12N5/10	A01H5/00
	C12Q1/68				

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N C12Q G01N A61K A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HILLIER, L., ET AL.: "pk42c09.r1 Caenorhabditis briggsae cDNA similar to SP:S35157 S35157 DELTA(6)-DESATURASE - SYNECHOCYSTIS" EMBL ACCESSION NO. R05219, 18 April 1995, XP002099441 see the whole document ---	1-13, 29-31, 38
X	SWINBOURNE, J., ET AL.: "Caenorhabditis elegans cosmid W08D2" EMBL ACCESSION NO. Z70271, 23 March 1996, XP002099442 see translation product for gene W08D2.4 and sequence 1251-1999 --- -/--	1-13, 29-31, 38

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

12 April 1999

Date of mailing of the international search report

23/04/1999

Name and mailing address of the ISA

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Authorized officer

Maddox, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03507

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SWINBOURNE, J., ET AL.: "T13F2.1" TREMBL ACCESSION NO. Q94044, 1 February 1997, XP002099443 & EMBL ACCESSION NO. Z81122, 21 October 1996, ---	1-6, 8-13, 29-31
X	KOHARA, Y.: "C. elegans cDNA clone yk436b12 : 5' end, single read" EMBL SEQUENCE ACCESSION NO. C47394, 9 September 1997, XP002099444 see the whole document ---	29-31, 38
X	KOHARA, Y.: "C. elegans cDNA clone yk436b12 : 3' end single read" EMBL ACCESSION NO. C35646, 6 September 1997, XP002099445 see the whole document ---	29-31, 38
P, X	SAYANOVA, O., ET AL.: "Caenorhabditis elegans delta6-fatty-acid-desaturase mRNA, complete cds." EMBL ACCESSION NO. AF031477, 27 April 1998, XP002099446 see the whole document	1-13, 29-31, 38
P, X	-& NAPIER, J.A., ET AL.: "Identification of a Caenorhabditis elegans delta6-fatty-acid-desaturase by heterologous expression in Saccharomyces cerevisiae" BIOCHEMICAL JOURNAL, vol. 330, no. 2, March 1998, pages 611-614, XP002099453 see the whole document ---	1-13, 27, 29-31, 36, 38
P, X	WO 98 46763 A (THURMOND JENNIFER ; CALGENE LLC (US); ABBOTT LAB (US); KNUTZON DEBO) 22 October 1998 see seq IDs 2, 5, and 10. ---	1-9, 13, 23-31, 36, 38
P, X	WO 98 46764 A (THURMOND JENNIFER ; CALGENE LLC (US); ABBOTT LAB (US); KNUTZON DEBO) 22 October 1998 see sequence IDs 2 and 12 ---	1-9, 13, 23-33, 36, 38
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03507

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SAYANOVA, O., ET AL.: "Expression of a borage desaturase cDNA containing an N-terminal cytochrome b5 domain results in the accumulation of high levels of delta-6-desaturated fatty acids in transgenic tobacco" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA., vol. 94, April 1997, pages 4211-4216, XP002099447 WASHINGTON US cited in the application see the whole document ---	1-38
A	TANAKA, T., ET AL.: "Effects of growth temperature on the fatty acid composition of the free-living nematode <i>Caenorhabditis elegans</i> " LIPIDS, vol. 31, no. 11, - 1996 pages 1173-1178, XP002099448 see page 1176, left-hand column ---	1-38
A	SPYCHALLA, J. P., ET AL.: "Identification of an animal omega-3 fatty acid desaturase by heterologous gene expression in <i>Arabidopsis</i> " PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA., vol. 94, February 1997, pages 1142-1147, XP002099449 WASHINGTON US cited in the application see the whole document ---	1-38
A	EP 0 410 637 A (IRELAND BIORESEARCH ;HEADON DENIS ROBERT (IE); MCSWEENEY FINBARR M) 30 January 1991 see the whole document ---	15,18-22
A	EP 0 454 102 A (EFAMOL HOLDINGS) 30 October 1991 see the whole document ---	23-26
A	EP 0 400 547 A (ABBOTT LAB) 5 December 1990 see the whole document ---	23-26
A	WO 96 21022 A (RHONE POULENC AGROCHIMIE) 11 July 1996 see page 2, line 3 - page 3, line 25 see page 11, line 10 - line 21 see page 12, line 5 - line 23 see page 19, line 25 - page 20, line 10 see page 31 - page 43; figures 4,9 ---	24-38
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03507

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>KODAMA H ET AL: "GENETIC ENHANCEMENT OF COLD TOLERANCE BY EXPRESSION OF A GENE FOR CHLOROPLAST OMEGA-3 FATTY ACID DESATURASE IN TRANSGENIC TOBACCO" PLANT PHYSIOLOGY, vol. 105, 1 January 1994, pages 601-605, XP002001002 see the whole document -----</p>	37

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 98/03507

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9846763	A	22-10-1998	AU 6961698	A	11-11-1998
			AU 7114798	A	11-11-1998
			WO 9846764	A	22-10-1998
WO 9846764	A	22-10-1998	AU 7114798	A	11-11-1998
			AU 7114898	A	11-11-1998
			WO 9846765	A	22-10-1998
			AU 6961698	A	11-11-1998
			WO 9846763	A	22-10-1998
EP 0410637	A	30-01-1991	AU 5913890	A	24-01-1991
			CA 2021186	A	20-01-1991
			JP 3065652	A	20-03-1991
EP 0454102	A	30-10-1991	AT 87825	T	15-04-1993
			AU 618814	B	09-01-1992
			AU 3597489	A	14-12-1989
			AU 633442	B	28-01-1993
			CA 1334004	A	17-01-1995
			EP 0347056	A	20-12-1989
			ES 2053990	T	01-08-1994
			IE 63303	B	05-04-1995
			JP 2032017	A	01-02-1990
			JP 2796838	B	10-09-1998
			KR 129666	B	09-04-1998
			NZ 239126	A	27-07-1997
			US 4977187	A	11-12-1990
			US 5120760	A	09-06-1992
EP 0400547	A	05-12-1990	AU 633320	B	28-01-1993
			AU 5622290	A	10-01-1991
			CA 2018096	A	02-12-1990
			JP 3047119	A	28-02-1991
			US 5196198	A	23-03-1993
WO 9621022	A	11-07-1996	US 5614393	A	25-03-1997
			AU 4673596	A	24-07-1996
			BR 9510411	A	19-05-1998
			CA 2207906	A	11-07-1996
			CN 1177379	A	25-03-1998
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